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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,636	08/05/2002	Rainer Kiefer	WSP: 204-US	3353

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EXAMINER

HEPPERLE, STEPHEN M

ART UNIT	PAPER NUMBER
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3753

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**MAILED**  
**DEC 13 2004**  
**GROUP 3700**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/069,636  
Filing Date: August 05, 2002  
Appellant(s): KIEFER, RAINER

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Michael Dunn  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 28 June 2004 and supplemental brief filed 12 October 2004 (to correct real parties in interest).

A statement identifying the real party in interest is contained in the brief.

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

No amendment after final has been filed.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

The appellant's statement in the brief that certain claims do not stand or fall together is not agreed with because reasons or arguments are not set forth to support patentability of each individual claim. Only a general statement mentioning some additional limitations without

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respect to specific claim numbers is offered. The examiner will consider the five groupings as set forth in appellant's "Issues Presented for Review" section.

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) *Prior Art of Record***

4,611,628	PASTERNAK	9-1986
5,305,794	GEORGE	4-1994
4,142,652	PLATT	3-1979
3,520,330	SZWARGULSKI	7-1970
DE 2406313	MAYS	8-1975

**(10) *Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

Claims 20-25 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over George or Pasternack. George shows a pressure cylinder valve with external valve 64 and a fill valve 102 that has always open restriction path 96a, 96b, for outflow of fluid. Pasternak shows a pressure cylinder valve with external valve 6 and a fill valve 27 that has always open restriction path 18, 22 for outflow of fluid. These restriction paths are always independent of the check valve opening. The references do not state the amount of resistance provided, but it would have been obvious to one of ordinary skill in the art to size the restriction such that with a particular fluid, a desired pressure drop occurs at a desired flow rate. Regarding claims 35-36, both references provide "an attachment portion" to connect to a pressure tank. In all the claims in the

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application, the recitation of carbon dioxide has been given no weight, but is seen only as suggested use

Claims 20-23, and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Platt. Platt shows a pressure cylinder with a discharge valve assembly inserted into and mated to the tank 10, including a discharge valve 20 and a porous/sintered flow resistance 24. The plastic resistor has an average pore diameter of less than 10 micrometers (claim 28) and an average porosity of 10-50% (claims 29-30). It would have been obvious to one of ordinary skill in the art to size the restriction such that with a particular fluid, a desired pressure drop occurs at a desired flow rate.

Claims 35 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mays (DE 2406313). Mays shows a discharge valve arrangement 4 where the threads at the top are the same as at the bottom. It would have been obvious to size restrictor 11 for any desired flow rate, as such is within the ordinary skill of those working in the art.

Claims 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasternack. Pasternack shows an attachment portion (threads 9) that screw into female threads in the tank.

Claims 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasternack in view of Szwargulski. Szwargulski shows a sintered check valve 14 for the purpose of allowing some fluid to pass when the valve is closed. It would have been obvious in view of Szwargulski to make the Pasternack valve 20 of sintered material to eliminate the need for a separate drilled passage 22 and the extra machining thus required.

**(11) Response to Argument**

Applicant's arguments appear to boil down to the notion that there is no motivation to size the restriction means of the various applied reference to cause the recited flow under the recited conditions. There is no argument that the references fail to teach restrictors, as the restrictors are present in the references. The only difference between applicant's invention and the applied art is POSSIBLY the size of the restriction. It has been long established that a mere change in size does not merit a patent. In the instant case, however, at least some of the references likely meet the limitation. For example, George is intended to be installed on a cylinder having sufficient pressure that if the main valve is sheared off, the restrictions allow a restricted rate of gas flow, "the risk of injury to the operator is reduced" (col. 3, lines 30-35). In a cylinder holding enough pressure to constitute a danger, it seems a restrictor dropping the pressure only one bar (one atmosphere) would not be worth the effort. Thus it is seen that the restrictor likely meets the recited results. However, because there is no clear declaration in the references, the rejections were made under 103. Finally, it does not require inventive effort to make a restrictor that causes a desired pressure drop—one simply makes the hole small enough.

Appellant has argued that making the restrictor small enough has a previously unrecognized result, i.e., that if the restriction is one bar or more, liquid carbon dioxide will not pass through (as liquid presumably) even if the valve is inverted. In response, it should be noted that all mechanical refrigeration and air conditioners have used the same principle for about a hundred years. Liquid refrigerant is forced through a throttling orifice, tube, or expansion valve, all for the purpose of dropping the pressure (about 10-20 bar in a typical car A/C), which results in evaporation of the refrigerant in the evaporator. There is no reason to expect liquid carbon dioxide to act differently. Furthermore, the claims are not directed to a method of preventing

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passage of liquid carbon dioxide, they simply recite a desired flow rate at a given pressure and temperature.

With respect to Platt, appellant's comment that the sintered ball passes liquid is irrelevant. Claims 20-23 and 26-30 recite a pressure drop, not a means of preventing liquid passage.

In response to appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,



Stephen M. Hepperle

Primary Examiner

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SMH

December 2, 2004

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